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Sustainable development in mountain regions

Sustainable mountain development

Report of the Secretary-General**

Summary

The present report was prepared in response to General Assembly resolution 58/216 of 9 February 2004, in which the Assembly requested the Secretary-General to report to it at its sixtieth session on the status of sustainable development in mountain regions. The report describes the status of sustainable mountain development at the national, regional and international levels, including an overall analysis of the challenges that lie ahead, and provides suggestions for consideration by the Assembly as to how to continue to promote and effectively sustain development in mountain regions around the world within the existing policy context, including chapter 13 of Agenda 21, the Johannesburg Plan of Implementation and the Millennium Development Goals.

* A/60/150.

** Submission of the present report was delayed in order to incorporate updated information on national and regional initiatives.

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I. Introduction

1. At its fifty-third session, in 1998, the General Assembly adopted resolution 53/24, in which it proclaimed 2002 the International Year of Mountains. The resolution encouraged Governments, the United Nations system and all other actors to take advantage of the Year in order to increase awareness of the importance of sustainable mountain development. The achievements of the Year were reported to the General Assembly at its fifty-eighth session, in 2003, in a report transmitted by the Secretary-General (see A/58/134).

2. The International Year of Mountains built on chapter 13 of Agenda 21 — elaborated at the 1992 United Nations Conference on Environment and Development — which focuses on mountain issues, and was dedicated to protecting mountain ecosystems and improving the well-being of mountain people. As reported by the Food and Agriculture Organization of the United Nations (FAO) in the report of the Secretary-General to the General Assembly at its fifty-eighth session, the International Year of Mountains acted as a catalyst for long-term, effective action to implement chapter 13, as intended. It achieved as much by raising awareness of the importance of mountains to life and the need to improve mountain environments and mountain people; supporting the establishment of 78 national committees for country-level action; and strengthening partnerships with stakeholders in mountain issues, which culminated in the launch of the Mountain Partnership at the World Summit on Sustainable Development (Johannesburg, South Africa, September 2002).

3. The Year also led to the adoption of resolution 57/245, in which the General Assembly designated 11 December as International Mountain Day, as from 11 December 2003, and encouraged the international community on that day to organize events at all levels to highlight the importance of sustainable mountain development. More recently, a General Committee meeting on 1 December 2004 recommended that the provision of development assistance to poor mountain countries should be included in the General Assembly's current agenda. It was also suggested that debt relief be considered as an important means of fighting poverty in these regions. In February 2005, the General Assembly adopted resolution 59/238 in which it decided to consider, under the agenda item entitled "Sustainable development", a sub-item entitled "Rendering assistance to poor mountain countries to overcome obstacles in socio-economic and ecological areas" at its sixtieth session.

4. The present report is submitted in compliance with the request of the General Assembly in its resolution 58/216 that the Secretary-General report to it at its sixtieth session on the status of sustainable development in mountain regions, with an overall analysis of the challenges that lie ahead and appropriate policy recommendations, under item 54 (e) of the provisional agenda. It was prepared by FAO in collaboration with Governments, relevant agencies of the United Nations system and non-governmental organizations.

II. Background and challenges

5. There is now increasing recognition that mountains are fragile ecosystems, that are globally important as the source of most of the Earth's freshwater, repositories

of rich biological diversity, popular destinations for recreation and tourism and areas of important cultural diversity, knowledge and heritage. Covering about one quarter of the world's land surface, mountains provide a direct life-support base for about 12 per cent of the world population, as well as essential goods and services to more than half of humankind. Yet many of the world's most impoverished and food-insecure people live in mountain regions. Consequently, there is a need to ensure the ecological health and the economic and social improvement of mountain areas, for the sake of both mountain inhabitants themselves, whose livelihood and overall well-being are at stake, and of people living in lowland areas.

6. Awareness of the importance of mountain ecosystems and communities has increased since the adoption of chapter 13 of Agenda 21, entitled "Managing fragile ecosystems: sustainable mountain development", at the United Nations Conference on Environment and Development in 1992. Commitment and will to implement have been strengthened since the International Year of Mountains in 2002. Mountains are gaining an increasingly high profile on agendas at the national, regional and international levels. The World Summit on Sustainable Development, held in Johannesburg, South Africa, in 2002, resulted in the Johannesburg Plan of Implementation, paragraph 42 of which describes actions required to address sustainable development of mountain regions; along with chapter 13 of Agenda 21, it serves as the overall policy framework for sustainable mountain development.

7. Despite increased awareness and the achievement of many positive results, there are still key challenges to be faced to attain sustainable development and alleviate poverty in mountains, consistent with the Millennium Development Goals. Growing demand for water and other natural resources, the consequences of global climate change, the growth in tourism, increasing rates of outmigration, conflicts and the pressures of industry, mining and agriculture in a world of increased globalization are some of the key challenges facing fragile mountain ecosystems. Higher levels of funding and investment in mountain areas, better coordinated cooperation at all levels and a stronger enabling environment with more supportive laws, policies and institutions are also required.

III. National action

8. Action at the national level, a key factor in achieving progress in sustainable mountain development, has steadily increased in recent years.

9. The International Year of Mountains provided a major opportunity for countries to increase their focus on mountains and led to the establishment of 78 national committees. In 2002, national committees in Africa, Asia, Europe, Latin America and the Near East coordinated a series of events and initiatives that created a growing network of support for mountain development around the world. Many of the committees have evolved into more permanent bodies and promise to be active agents for change.

10. Thanks to financial support from the Government of Italy, 24 countries were able to establish long-term institutional arrangements for mountains, building on the above-mentioned national committees and the development of national strategies, plans and programmes for the sustainable development of mountain regions. As much was made possible thanks to support for workshops and conferences that were organized in countries with stakeholders that had been involved in the

implementation of activities during the International Year of Mountains in 2002. The significant amount of funding provided by the Governments of both Italy and Switzerland for the observance of the International Year of Mountains and beyond was an important factor in the overall success of the Year and its follow-up.

11. As it is beyond the scope of the present report to describe the multitude of events, activities and initiatives undertaken by countries for the sustainable development of mountain regions, the following section will only provide selected examples and highlights of action at the national level.

Latin America

12. Mexico is formulating a long-term national strategic programme effective up to 2025. Through the implementation of operational programmes in 12 regions of Mexico, with high priority given to 60 mountain areas covering 6.7 million hectares, the programme is aimed at halting and reversing serious problems arising from the destruction and degradation of natural resources, such as those relating to the water supply, soil erosion and loss of biodiversity. Mountain issues have now been raised higher on the national agenda in Argentina, as seen in the establishment of the Committee for Sustainable Development in Mountain Regions of Argentina in 2005. Its creation was motivated by the extensive work undertaken on mountain issues in the country during the International Year of Mountains and an intensive three-year collaborative process with key Government agencies and institutions. The committee is set to play an integral role in the coordination of future Government activities to develop mountain regions and in the definition of strategies that focus particular attention on mountain communities.

13. In Peru, a new agreement between six indigenous communities and the International Potato Center recognizes the right of indigenous communities over the unique potato strains that they have developed and grown. The Association for Nature and Sustainable Development, a Cusco-based civil society group led by indigenous peoples, helped broker the agreement with the Center, one of 15 research centres supported by the Consultative Group on International Agricultural Research, responsible for the world's largest agro-biodiversity gene bank collections. The new agreement means that Andean communities, the traditional custodians of the region's biodiversity, can open the potato gene bank and restore biological diversity to farming communities and the natural environment for local and global benefit. In addition to addressing national issues of sustainable mountain development, Peru has made significant contributions at both the regional and the international levels; for example, it hosted the second meeting of members of the Mountain Partnership in Cusco in 2004.

14. Cuba continues to be a pioneer in the protection of mountain environments and the improvement of mountain livelihoods. In 1987, Cuba set up a national commission to address economic, social and environmental mountain issues, which included a national reforestation programme. The commission formulated several plans which continue to be implemented in the country's mountainous regions today. Within this context, an ongoing small-scale project is putting local governing bodies in place to improve the quality of life and food security of mountain communities by strengthening the coordination and communication between multiple service providers, and between communities and extension service providers.

Asia

15. Armenia is currently devising a national strategy for sustainable mountain development in a partnership that involves a broad cross-section of national stakeholders (Government agencies, academics and non-governmental organizations) and the United Nations, through the FAO Technical Cooperation Programme, which is testing sustainable mountain development approaches on the ground, and is expected to lead to a larger mountain region investment programme in the near future.

16. In Kyrgyzstan, efforts are under way through a similar project to reduce outmigration from mountain areas by creating new income opportunities. Priority mountain products are being identified and small enterprises developed with training provided to create and strengthen local capacities for production, processing and marketing. Study tours to other countries with comparable conditions — enabling the exchange of experiences and lessons learned — are an important feature of this project.

17. In Tajikistan, approximately 98 per cent of the uplands are affected by severe degradation and erosion. The Government of Tajikistan is implementing a new project for participatory integrated watershed management in upland areas, devised to reverse the degradation of upland resources and the deterioration of local incomes. The project will provide assistance in establishing the prerequisites for the rehabilitation and development of the country's upland resources and set the stage for further long-term investment in the mountain regions.

18. The Democratic People's Republic of Korea is applying knowledge gained from a recently completed forestry project on the sustainable development of upland water catchments and the use of marginal agricultural land to help reduce soil erosion, protect natural resources and increase agricultural output in the country. The application of a participatory approach to watershed management and the development of pilot sites have yielded very positive results that have the potential for wider replication throughout the country. Efforts are under way to develop a large-scale investment programme in sustainable mountain development that could have far-reaching results in combating poverty and natural resource degradation in the country's poor mountainous areas.

Africa

19. Small community enterprises are being created in communities around the Bwindi Impenetrable National Park in Uganda to generate income while conserving the park, named a World Heritage Site by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1994. Thanks to a four-year FAO project, funded by the United Nations Foundation and the Government of Norway, communities that used to depend on the park's forest resources for their livelihood have now started some 12 small-scale enterprises and earn income from a range of products — such as handicrafts, honey and mushrooms — while conserving the park. This pilot project shows that it is possible for communities living around high biodiversity or protected sites to create alternative sources of income using natural resources in a sustainable way.

20. A new project has recently been launched in Kenya to support the development of the specialty coffee sector in highland areas. The Coffee Research Network office in Nairobi is coordinating efforts to identify bottlenecks along the product supply chain and to develop a programme of intervention to improve production and marketing of specialty coffee. Partners in this process include the Ministry of Cooperative Development and Marketing, the Kenya Institute of Organic Farming, and Cooperative Coffees (an American cooperative of buyers that imports organic and fair-trade coffee from different mountain regions around the world).

Europe

21. The Government of Poland is developing a project that features an integrated approach to sustainable mountain development, builds capacity, improves the livelihood of mountain people, protects the mountain environment and strengthens local institutional structures. Turkey is developing a project that integrates sustainable mountain development at the pilot, regional and national levels. In Ukraine, a national mountain committee has been developed to initiate a process of institutional strengthening within the country. This permanent body builds on the national committee that was established to observe the International Year of Mountains in 2002 and maintains a multi-stakeholder structure. It allows Ukraine to address mountain issues from a multi-disciplinary perspective and in particular its participation in the Carpathian Convention. In 2004, Romania's Mountain Law was in the final stages of being passed, having been successfully approved by the Romanian Government and Parliament. In this way, Romania is moving ahead in its drive to develop and implement a broad-ranging mountain policy and sustainable mountain development programme that will address the urgent issues of land degradation, depopulation and the decline in mountain agriculture.

IV. Regional cooperation and transboundary approaches

22. Although mountain ranges are often shared among several countries, regional and subnational cooperation is often limited or hampered by national laws. The need for innovative legal arrangements is a prerequisite for effective management of areas shared among two or more countries. For this reason, the study of a modality for managing mountain areas through new institutional settings that allow for the inclusion of representatives of local authorities of more than one country is especially timely.

23. The European Academy (EUAC), an Italian institute for applied research and further education, has conducted a study to analyse the legal instruments and mechanisms for transboundary cooperation at the subnational level. The study was undertaken in context of the "Espace Mont Blanc", an area that is jointly managed by three subnational authorities from Italy, France and Switzerland. The result of the study could serve as a model to be adapted to other regions faced with the same needs of jointly managing mountain ranges on national borders.

Alpine Convention

24. Transboundary collaboration on mountains between Austria, Switzerland, Germany, France, Liechtenstein, Italy, Monaco, Slovenia and the European Community is defined by the Alpine Convention, the first international convention to encompass such an extensive land mass. The Convention covers the entire Alpine region, which comprises some 190,000 square kilometres and is home to an estimated 13.2 million people.

25. The Convention strives to ensure integrated, sustainable development of the Alps, a fundamental concept that runs through the framework convention and the thematic protocols, such as spatial planning, mountain farming, conservation of nature and landscape, mountain forests, tourism, soil protection, energy and transport. In addition, the Convention promotes constructive new approaches in order to guarantee attractive living conditions and development opportunities that preserve that which is worth preserving in a changing environment.

26. The framework convention was signed by the contracting parties between 1991 and 1994, and became effective in 1995. By 2002, the various protocols had been subsequently signed by the member States and became effective on 18 December 2002. Not all protocols have yet been ratified by all the contracting parties.

27. A permanent secretariat for the Alpine Convention was set up in 2003 in Innsbruck (Austria), with an office in Bozen (Italy). Another important contribution towards implementation has been made by the three networks that specifically refer to the Alpine Convention, namely the Alpine Network of Protected Areas, the Alliance in the Alps network of local authorities and the International Scientific Committee on Research in the Alps.

28. The multi-annual work programme of the Convention is based on key issues for the next six years: mobility, accessibility and transit traffic; society, culture and identity; tourism, leisure and sports; nature, agriculture and forestry and cultural landscape.

29. With its integrative approach embracing ecological, economic and social aspects, the Alpine Convention has been a precursor for other mountain areas and conventions. Close cooperation activities are running currently with the mountain regions of the Carpathians, the Caucasus and Central Asia (Tienshan/Pamir). Cooperation with other mountain areas and conventions also plays an important role in the multi-annual work programme of the Convention. The exchange of experiences, including partnerships with other mountain areas, is considered not only an implementation priority but also a cross-sectional task. In this sense the support provided by the Alpine Convention and the single contracting parties is to be continued and intensified.

30. The Alpine Network of Protected Areas has engaged in a partnership with the managers of mountain protected areas in the neighbouring Carpathians. The partnership, supported by the United Nations Environment Programme (UNEP), is aimed at the establishment of the Carpathian network of protected areas. Simultaneously, the Environment and Security Initiative of the United Nations Development Programme (UNDP), UNEP, the Organization for Security and Cooperation in Europe and the North Atlantic Treaty Organization enhances

transboundary management of biodiversity in the mountain regions of South-Eastern Europe.

Carpathian Convention

31. The Carpathian region — which spans the Czech Republic, Hungary, Poland, Romania, Serbia and Montenegro, Slovakia and Ukraine — hosts one of Europe's largest mountain ranges, harbouring a unique natural and cultural heritage, providing a haven for wildlife and acting as an ecological link within Europe. The Carpathians — a living environment for millions of people and one of the most dynamically developing regions of Europe — face similar challenges to those of other mountain areas of the world: rising unemployment and poverty, unsustainable development patterns, overexploitation of natural resources, pollution, deforestation, excessive hunting and habitat fragmentation.

32. In 2001, the UNEP Regional Office for Europe was requested by the Government of Ukraine to service a regional cooperation process that was aimed at the protection and sustainable development of the Carpathians. In response to this request, the Office promoted an Alpine-Carpathian partnership. In 2002, during the International Year of Mountains, the Alpine-Carpathian partnership was initiated and launched by the Ministry of the Environment and Territory of Italy, then President of the Alpine Convention. Since then, five meetings of the Carpathian countries have been held for negotiations.

33. At the fifth Ministerial Conference of the "Environment for Europe" process (Kyiv, May 2003), the Carpathian countries adopted the Framework Convention on the Protection and Sustainable Development of the Carpathians, which was signed by all seven countries. The Convention provides the framework for cooperation and multisectoral policy coordination, a platform for joint strategies for sustainable development and a forum for dialogue between all stakeholders. As an interregional agreement, the Carpathian Convention is aimed at encouraging conservation of the region's outstanding natural heritage while bringing benefits to the local population through sustainable development.

34. Meanwhile, the Carpathian Convention has been ratified by four Carpathian countries and is expected to enter into force in 2005. Romania has offered to host the first meeting of the Conference of the Parties in the Romanian Carpathians. A multisector work programme is currently being prepared, involving a broad range of partners in the framework of the Mountain Partnership.

35. The Carpathian model of regional cooperation holds valuable lessons for other transboundary mountain regions of the world. In the context of the Mountain Partnership, other mountain regions such as the Andes, the Balkans and the Hindu Kush Himalaya have expressed considerable interest in having more information on existing regional cooperation, in order to enhance dialogue and engage in a process of mutual exchange of experiences between mountain regions.

36. In 2004, UNEP, with the joint support of Austria and the Carpathian countries, opened a new office at the United Nations Office at Vienna. Among its tasks, the UNEP office serves as the interim secretariat of the Carpathian Convention and promotes environmental cooperation in Central and South-Eastern Europe. The

UNEP Vienna secretariat, with financial support from Switzerland, is also part of the Mountain Partnership secretariat located at FAO headquarters.

37. Conserving some of the most important mountain ecosystems in Europe was the theme of a side event held during the Convention on Biological Diversity Ad Hoc Open-Ended Working Group on Protected Areas (Montecatini, Italy, from 13 to 17 June 2005). The event, entitled "A vision for biodiversity in the Alps and Carpathians", was organized within the framework of the Mountain Partnership and generated a valuable exchange of ideas, experiences and lessons learned in the management of two critical mountain regions of the world. The event was sponsored by the World Wildlife Fund and UNEP, in cooperation with the European Academy of Bozen, the International Scientific Committee for Alpine Research, the International Commission for the Protection of the Alps and other key partners.

Other initiatives

38. In 2004, Slovenia was the setting of a major conference that was aimed at building bridges between researchers, local people and politicians. "The Alps of the next generation — from forecast to action" (Kranjska Gora, Slovenia, from 22 to 25 September 2004), jointly organized by four Alpine organizations (the International Scientific Committee for Alpine Research, the International Commission for the Protection of the Alps, the municipality network alliance in the Alps and the Network of Alpine Protected Areas) had the task of answering the question: "How, and in what state, will we leave the Alps to our children?" The multidisciplinary discussions focused on four main themes relating to the Alpine region: general prospects and the management of natural resources; the natural and cultural heritage of landscapes; economic aspects of tourism and regional development in connection with European Union enlargement; and sociocultural issues.

39. The Caucasus mountains on the eastern borders of Europe face problems similar to those of many other mountain regions of the world — increasing poverty, outmigration to lowlands and the loss of traditional cultures, livelihoods and agricultural practices — despite the region's potential for developing a modern economy with small and medium-sized enterprises, tourism and alternative energy sources. This potential is being tapped by the development of a local Agenda 21 for the Caucasus region, financed by the ministries of the environment of Germany and Liechtenstein. The pilot project is aimed at developing the local Agenda 21 for the mountain regions of the Caucasus by involving a maximum number of villagers in planning processes. To date, the project has selected pilot villages in four Caucasus countries (Armenia, Azerbaijan, Georgia and the Russian Federation), undertaken preliminary analysis, collected information and carried out preliminary activities in the villages.

40. The Banff Centre in the Canadian Rockies hosted the International Mountain Corridors Conference: Protecting the World's Mountain Corridors and Peace Parks, from 8 to 14 September 2004. Mountain corridors and peace parks provide essential space to protect existing mountain habitats, replenish depleted areas and repopulate extinct ones. The public had the opportunity to learn about these landscape conservation efforts at the event, which provided a forum for invited experts to exchange lessons and compare experiences in mountain conservation from regions

as diverse as the Yukon region, the Alps, the Pyrenees, the Himalayas, Central and South America and Africa.

41. Progress on research and development in the Andes was the focus of the fifth International Symposium for Sustainable Development in the Andes, organized by the Andean Mountain Association in April 2005. Participants in the symposium issued the Jujuy Declaration on Sustainable Mountain Development, which considered the specific opportunities and constraints in the Andean region and made recommendations for its sustainable development, ranging from the creation of closer linkages between research and the needs of local populations to the promotion of community-based conservation, the creation of national and transboundary protected areas and the placing of conservation and development issues higher on national and international agendas.

42. The fourth European Mountain Convention was held in Rodez, France, in November 2004. Attended by some 400 participants, including representatives from more than 20 European countries, the European Commission and regional and international organizations, this two-day conference was a forum for discussion on the future of Europe's mountains. Organized by Euromontana, the meeting advocated that mountains be portrayed in a more positive light, as areas with enormous potential for Europe rather than simply as areas of "natural handicap". The new challenges facing mountain regions, in the face of expanding European Union membership, were also discussed.

V. International initiatives

43. A number of international organizations launched mountain-related initiatives or integrated issues relating to mountains and mountain people into their programmes of work.

44. The Convention on Biological Diversity has become an increasingly important international mechanism for conservation in mountain regions. The seventh meeting of the Convention's Conference of Parties (Kuala Lumpur, from 9 to 20 February 2004) adopted a programme of work on mountain biological diversity, the overall aim of which was the significant reduction of the loss of mountain biological diversity by 2010 at the global, regional and national levels.

45. The programme of work was aimed at establishing regional and transboundary collaboration and called for, inter alia, strengthened collaboration with the Mountain Partnership and regional conventions on mountains. Its implementation was intended to make a significant contribution to poverty alleviation in mountain ecosystems and in lowlands dependent on the goods and services provided by them, thereby contributing to the objectives of the Strategic Plan of the Convention on Biological Diversity, the Plan of Implementation of the World Summit on Sustainable Development (2002) and the Millennium Development Goals (2000).

46. Alpine ecosystems, which boast the greatest degree of plant diversity in the world, are under increasing pressure from climate change. The Global Information Research Initiative for Alpine Environments is establishing and maintaining a worldwide long-term observation network in Alpine environments to document biodiversity and habitat changes and to assess risk. The Initiative facilities collect vegetation and temperature data to identify trends in species diversity and

temperature and assess and predict losses in biodiversity. Over the past year, the network has grown with the setting up of new monitoring sites in different mountain regions: Kosciuszko National Park in Australia's Snowy Mountains, three sites in North America and one site in Germany. New target regions will be established in UNESCO biosphere reserves in Chile, Peru and the Russian Altai Mountains.

47. By means of satellite technology, scientists at the European Space Agency and UNESCO have produced detailed maps of inaccessible zones in Central Africa that are helping to monitor the habitat of the region's threatened mountain gorillas. The project, known as Build Environment for Gorillas, is part of an initiative agreed between UNESCO and the Agency which is aimed at providing satellite images and know-how in space-supported conservation to developing countries. An estimated 650 endangered mountain gorillas in nature reserves in the Democratic Republic of the Congo, Rwanda and Uganda have already been saved by the project, which has supplied these countries with their first accurate maps of the animals' environment and allowed authorities not only to follow the gorillas but also to monitor any changes in or degradation of their habitat. A comparison of the satellite images taken over the sites between 1990 and 2003 has also provided an accurate picture of the impact on the mountain environments caused by deforestation, poaching and the arrival of refugees.

48. Mountains featured prominently during the last World Conservation Union Congress (Bangkok, from 17 to 25 November 2004), which explored the effects of climate change on the world's mountain ecosystems. Experts attending the event warned that little was being done to monitor the state of glaciers in the Himalayas, which were melting due to global warming and thereby increasing the risk of major floods. The Congress included a workshop on conservation and sustainable development in mountain areas and adopted several resolutions and recommendations directly relating to mountains.

VI. Communications and networking

49. Communications and networking about mountains at the local, regional and international levels have significantly progressed since the International Year of Mountains, thanks to a growth in the collection and dissemination of information and knowledge, the creation of databases relating to mountains being used to support interdisciplinary research, decision-making and planning, and the development of partnerships to stimulate debate and foster action at all levels.

50. An increasing number of networks are helping to ensure that the challenges and opportunities facing mountain people and their environments are shared in mountain communities and beyond. For example, the Mountain Forum, an international non-governmental organization consisting of a global secretariat in Nepal and five regional nodes, is an electronic network of networks that promotes sustainable mountain development through information exchange and advocacy. With over 3,200 members from over 100 countries, the Mountain Forum delivers a range of services, including global, regional and thematic e-mail discussion lists, electronic conferencing, a calendar of events and an online library of mountain resources. In August 2004, the Asia-Pacific node of the Mountain Forum launched a community radio project to explore the potential for connecting Himalayan mountain villages to the global community, through collaboration with the oldest

broadcasting station in South Asia, Radio Sagarmantha. Through a series of programmes on such topics as resource extraction from mountains, mountain identity, conflict between locals and tourism service providers, and outmigration, the project demonstrated that radio is one of the most effective means of reaching the grass roots and allowing local people to tell their stories to the world at large. The Latin American node of the Mountain Forum, InfoAndina, has implemented a successful programme of travelling workshops to bring information and networking to rural towns and villages in the Andes with limited or no Internet access. The North American node of the Mountain Forum, established in late 2002 and operating in a region of high Internet access, has begun working towards the creation of a Web portal that will collect and publicize community resources and information about sustainability for three local mountain communities. In 2004, more mountain areas were reached by the Mountain Forum thanks to the creation of the European Mountain Forum, which welcomes participation from individuals and organizations from seven main geographical areas in Europe, North Africa and the Middle East sharing the Mediterranean basin.

51. Euromontana, the European multisectoral association for cooperation and development of mountain territories, has continued to play a very active role in facilitating the exchange of information and experience among mountain stakeholders in Europe and beyond, by organizing seminars and major conferences, conducting studies, developing, managing and participating in European projects and by working with European institutions on mountain issues. Euromontana has led a major European-wide research project into quality mountain food products since 2002 and proposed a series of recommendations at the European level.

52. In 2004, a new website on Central Asian mountains was launched. The "Mountains of Eurasia" website, developed by the Man and the Biosphere-6 UNESCO Mountain project in Russia in collaboration with the Mountain Forum, is aimed at disseminating information about the challenges faced in the mountain regions of the northern part of Eurasia, posting news of mountain development issues in the Caucasus, Central Asia, the Russian Federation and Ukraine.

53. The FAO Project for Sustainable Agriculture and Rural Development in Mountain Regions has launched a new database of documentation on policies for sustainable agriculture and rural development in mountains. It contains details on more than 100 documents (e.g., policy studies, partners' experiences, case studies) from Governments, international organizations, research institutions and civil society organizations from around the world.

54. The University of British Columbia (Canada) and the Forest Conservation Service of FAO are collaborating on a pilot project to create a web-based discussion platform to foster cooperation and contribute to the enhanced practical implementation of watershed management through the exchange of new ideas, experiences and lessons learned.

55. The Oral Testimony Programme of the Panos Institute (United Kingdom of Great Britain and Northern Ireland) continues to amplify the voices of the poor and the marginalized living in the world's mountains and highlands. Voices from the Mountain (2005), the latest collection in the Oral Testimonies series, features new testimonies from those living in mountain and highland regions in Mexico and Pakistan and complement those already published from communities in Africa (Ethiopia, Lesotho, Kenya), Asia (China, Nepal, India), Latin America (Peru) and

Europe (Poland). The testimonies are a blend of anecdote, information, history, culture, knowledge, opinion and experience.

56. The Mountain Research Initiative, a multidisciplinary scientific organization that promotes global change research in mountain environments around the world, is developing a database as a central networking tool to connect people from research, Government, non-governmental organizations and the private sector involved in the issue of global change in mountain regions. The database already comprises close to 3,000 entries with contact information and details on the areas of expertise of participants.

57. Mountain Culture at the Banff Centre (Alberta, Canada) promotes understanding and appreciation of the world's mountain locations through its Mountain Communities conferences. Governance and Decision-Making in Mountain Areas, for example, explored the characteristics of effective governance in mountain areas, and how stakeholder and scientific knowledge could be better incorporated into the decision-making process.

58. *Mountain Research and Development*, the leading interdisciplinary and development-oriented journal specifically devoted to the world's mountain regions, continues to be a major platform for communication on mountains, emphasizing both research and development, and also including sections devoted to exchanges of experience among institutions and individuals.

59. The decision by the General Assembly to declare 11 December International Mountain Day as a result of the successful observance of the International Year of Mountains in 2002 has provided an important annual communications and networking opportunity to reinforce the global significance of mountains to life and to strengthen concrete actions, particularly at the national level. As designated coordinating agency, FAO has led worldwide observance of International Mountain Day since 2003. The theme for International Mountain Day in 2003 was "Mountains: source of freshwater"; in 2004 it was "Peace: key to sustainable mountain development". The theme selected for 2005 is "Sustainable tourism for poverty alleviation in mountain areas".

VII. Mountain Partnership

60. The International Partnership for Sustainable Development in Mountain Regions, or the Mountain Partnership, was launched as a Type 2 outcome of the World Summit on Sustainable Development in 2002. It is a voluntary alliance of partners and acts both as a tool and a framework in which to enhance long-term cooperation and commitment, offering new opportunities to exchange results, network, initiate new activities and strengthen existing ones to improve the livelihoods of mountain people and protect mountain environments around the world.

61. The Mountain Partnership is building on the achievements of the International Year of Mountains and aims to improve the effectiveness and efficiency of the implementation of chapter 13 of Agenda 21, taking into account the growing involvement of global actors such as civil society, including the private sector, non-governmental organizations and the academic and research community. The Partnership is meant to facilitate implementation of the negotiated outcome of the

World Summit — the Johannesburg Plan of Implementation — and promotes, inter alia, joint initiatives based on actions proposed in paragraph 42 of the Plan of Implementation and other related instruments regarding mountains, by enhancing on-the-ground action and by working at the policy, programme and project levels.

62. Membership of the Mountain Partnership has grown steadily from approximately 40 members at its launch at the World Summit to 123 members as at July 2005. The membership comprises 45 countries, 14 intergovernmental organizations and 64 major group organizations (e.g., civil society, non-governmental organizations, and the private sector).

63. The dynamic core of the Mountain Partnership is Partnership Initiatives — areas of collaborative work identified and implemented by members. Specific thematic initiatives have been launched in the areas of education, gender, policy and law, research, sustainable livelihoods, sustainable agriculture and rural development in mountains and watershed management. Additionally, geographically focused initiatives have been launched in the Andes, Central America and the Caribbean, Central Asia, East Africa, Europe and the Hindu Kush Himalaya. These initiatives will be followed by others, as new thematic and geographic priority areas are identified by members.

64. The Mountain Partnership is supported by a secretariat, hosted by FAO and financed through voluntary contributions from the Governments of Italy and Switzerland. The secretariat is multi-stakeholder in composition, with staff inputs from FAO and UNEP and close collaboration with the Mountain Forum. The main tasks of the secretariat are to facilitate action on the ground, promote members' collaborative activities, provide communication services, knowledge management and brokering functions, and act as networking point and liaison office for partners.

65. Various types of communication and information exchange mechanisms, including both electronic means (e.g., e-consultations, e-newsletters, website and databases) and face-to-face meetings (workshops for initiatives and two global meetings of the entire membership in Merano, Italy, in 2003 and Cusco, Peru, in 2004), have been key factors in fostering networking and building alliances within the Partnership and mobilizing action by members in the various phases of its development. The Mountain Partnership secretariat has created an electronic monthly newsletter and launched the Mountain Partnership website (all available in English, French and Spanish). The secretariat is also developing online databases on the membership of the Mountain Partnership as a whole and on each of the thematic and geographic Partnership initiatives, in particular. An online database on funding sources to support members' collaborative activities has also been developed.

VIII. Education

66. Education is one of the most effective means of alleviating poverty and promoting sustainable development, as it helps strengthen the capacity of people to solve their own problems and improve their lives and livelihood opportunities. This was the underlying theme of the recent international conference on Education for a Sustainable Future (Ahmedabad, India, from 18 to 20 January 2005), the first international event marking the beginning of the United Nations Decade of Education for Sustainable Development. The Conference featured a special thematic workshop on mountains, which attracted participants from several countries and

covered topics ranging from transboundary cooperation for conservation in mountains to the capacity-building of various stakeholders and the strengthening of networks and partnerships. The event also ensured that mountain issues were included in recommendations for the draft international implementation scheme prepared by UNESCO for the Decade of Education for Sustainable Development.

67. The current programme of the United Nations University now includes several educational activities specifically addressing mountain issues. The University is offering three training courses: the first promotes collaborative strategies in the sustainable management of land within the mountain region shared by Tajikistan and Kyrgyzstan; the second addresses the conservation of biodiversity in the montane mainland in South-East Asia; while a third training course on the theme of education for sustainable development is aimed at raising awareness of sustainable mountain development issues among both the general public and decision makers.

68. Italy has introduced a one-year masters degree for mountain enterprises. The new multidisciplinary post-graduate degree in the Lombardy region is designed to equip students with the capacity to develop enterprises in mountain areas that can compete in markets without damaging mountain environments and resources. The training considers the scientific, technical, economic and legal aspects of mountain enterprises. It is an initiative of the Istituto di Ricerca per l'Ecologia e l'Economia Applicate alle Aree Alpine, the Catholic University of the Sacred Heart, the University of Pavia and the Turin Polytechnic.

Teaching environment and development through art

69. In arid regions and mountainous zones, populations are primarily confronted with issues of desertification and erosion resulting in environmental degradation that eventually threatens their livelihood. The UNESCO Man and the Biosphere programme is now developing an environmental education kit using an artistic approach, which is designed for primary and secondary education teachers in countries situated in the world's drylands and highlands. The kit is designed to help teachers convey scientific knowledge and information to pupils in an inspiring manner using an artistic approach and to ultimately empower pupils and their communities to combat desertification, land degradation and support biodiversity conservation.

IX. Research

70. Under the leadership of the UNESCO Diversitas programme and the Swiss Academy of Sciences, the Global Mountain Biodiversity Assessment is a network of about 400 mountain biodiversity researchers and policymakers from around the world. The network, launched in Switzerland in September 2000, strives to enhance understanding among both experts and the public of the biological richness of the mountains of the world and the responses to global change. Ongoing assessment has served to increase the visibility of mountain biodiversity issues and is identifying gaps for future research.

71. The Consultative Group on International Agricultural Research has continued its system-wide Global Mountain Programme, which involves its centres such as the International Livestock Research Institute, the World Agroforestry Centre and the International Potato Center (which convenes the Programme). Activities range from

empowering mountain inhabitants through the training of local professionals in the use of new tools and methods to systematizing eroding indigenous knowledge for future generations.

72. Global Change in Mountain Regions is a support activity of the European Union's Sixth Framework Programme on Sustainable Development, Global Change and Ecosystems. The project, jointly implemented by the Mountain Research Initiative, UNESCO and other partners, is aimed at the development of a state-of-the-art integrated and implementable research strategy to gain a better understanding of the causes and consequences of global change in a selection of 28 UNESCO Mountain Biosphere Reserves around the world. The results of this research strategy serve as a basis for Reserve managers and other stakeholders to develop sustainable development policies for their respective Reserves.

73. The Open Science Conference on Global Change in Mountain Regions (Perth, Scotland, from 1 to 5 October 2005) will communicate new results between scientists and researchers working in the mountains of both industrialized and developing countries around the world and produce a framework for long-term research on global change that can be implemented in Mountain Biosphere Reserves and other mountain locations in both industrialized and developing countries.

74. In June 2005, Mountain Research Initiative published *Global Change and Mountain Regions: A State of Knowledge Overview*, the result of a research project largely facilitated by the Initiative. This comprehensive work by over 60 authors provides an invaluable survey of the current state of scientific knowledge relating to conservation and development planning in mountain regions.

75. Remote sensing of mountain areas has enormous potential for surveying, managing and protecting mountain ecosystems. However, there are many technical constraints that need to be overcome before remote sensing can become an effective tool in monitoring for sustainable development. The United Nations Office for Outer Space Affairs held a workshop on remote sensing for mountain areas (Kathmandu, from 15 to 19 November 2004) to explore how remote sensing, satellite communications and global navigation satellite systems can benefit sustainable mountain development projects in the future.

76. The Ev-K2 project of the Italian National Research Council has become one of the international cornerstones of high-altitude and remote-area scientific research. The project's logistical base is the Pyramid International Laboratory-Observatory, located 5,050 metres above sea level in the Khumbu valley, at the foot of Mount Everest. The Pyramid is the first semi-permanent high-altitude research centre in the world and includes a self-sufficient energy system as well as a fully equipped scientific laboratory. Most recently, researchers in the Pyramid have been observing and monitoring sample subjects to assess their behaviour and reactions during uphill climbs, in terms of both oxygen availability and additional carrying loads.

77. The Mountain Partnership is facilitating research efforts in mountains through its Research Initiative, by enhancing wider dissemination of knowledge about existing mountain research programmes, institutions and funding sources to researchers, donors and stakeholders, and through the establishment of a consultative process linking donors, stakeholders and researchers around key mountain research issues to promote funding. Work is under way to develop a

simple research community information grid that will include information on the above topics and on persons involved in mountain research.

X. Resource mobilization and funding mechanisms

78. Funding for sustainable development in mountains has become an increasingly important issue, especially in the light of the greater recognition of the global importance of mountains and the disproportionately high level of extreme poverty, food insecurity and hardship facing mountain communities. Traditional sources of development assistance continue to be crucial, but have proved inadequate to address the many challenges and urgent needs of mountain regions. New and innovative funding mechanisms are also required, such as debt swaps and increased opportunities for microfinance.

79. The Global Environment Facility has great but under-exploited potential to make significant financial resources available for mountain conservation and development. Project concepts are currently being developed for Facility funding that would focus on conserving the globally significant montane ecosystems of central and northern Asia. Kyrgyzstan, Tajikistan, Kazakhstan, UNDP, the World Conservation Union and other partners are working in the context of the Mountain Partnership, and have identified and are elaborating several project ideas for consideration by the Facility. A similar regional process to develop Facility proposals is envisaged for the Andes, based on this collaborative effort. Major Facility funding is also being considered in the Fouta Djallon region of Guinea, the source of much of the freshwater supply for West Africa, through a regional project involving several countries.

80. The Carpathian Ecoregion Initiative, UNDP, UNEP and the World Wildlife Fund have developed a Facility proposal for a full-sized project entitled "Biodiversity conservation in the Carpathians through an enhanced protected areas system and connectivity of an ecological network", which entered the pipeline in 2005.

81. A new generation of financial products and services to help some of the world's most vulnerable populations has been launched by the Aga Khan Agency for Microfinance, which will deliver innovative services including microinsurance, small housing loans, savings, education and health accounts, as well as support for small entrepreneurs seeking to develop businesses related to restored cultural assets. The programmes of the Agency are designed to convey the very poor beyond subsistence, while reducing their vulnerability to unforeseen events, such as family crises or natural disasters. Programmes are already operating in both rural and urban settings and in a variety of cultures in several mountain countries, including Afghanistan, Burkina Faso, Egypt, India, Kenya, Kyrgyzstan, Mozambique, Pakistan, the Syrian Arab Republic and Tajikistan. The launch of the new Agency — and its extension of microcredit to include these broader services — coincides with the 2005 United Nations International Year of Microcredit.

82. The World Wildlife Fund, in collaboration with local partners, is developing a fund to finance responsible watershed management in Guatemala's Sierra de las Minas biosphere. Known as the Water Fund, water users — including bottling companies, distilleries, hydroelectric plants and paper processing mills — are showing their commitment to environmental responsibility and their awareness that

water is a strategic resource whose conservation must be planned for the long term by making significant financial contributions towards environmental services in the region. According to the World Wildlife Fund, the Water Fund will help residents of the highlands of the Motagua River watershed carry out sound management of their forests, and those in the lowlands to use water efficiently without waste while reducing contamination of effluent waters.

XI. Recommendations

83. **Significant progress towards sustainable development in mountains has been achieved in recent years, in terms of both increased awareness about the global importance of mountains and new institutional arrangements at the national, regional and international levels to address mountain issues. Nevertheless, much remains to be done, especially at the national and regional levels, in the planning and implementation of programmes on the ground in mountain communities.**

84. **The General Assembly, in its efforts to be fully consistent with chapter 13 of Agenda 21, the Johannesburg Plan of Implementation and the Millennium Development Goals, may wish to reiterate some of the possible courses of action for Governments, such as:**

(a) **Encourage the further establishment of national committees or similar institutional arrangements and mechanisms to enhance intersectoral coordination and collaboration for sustainable development in mountain areas;**

(b) **Support national efforts to develop and implement strategic plans, programmes and projects for the sustainable development of mountains and enabling policies and laws;**

(c) **Assist developing countries and countries with economies in transition to formulate and implement national strategies and programmes for sustainable mountain development, through bilateral, multilateral, and South/South channels of cooperation, as well as through non-traditional arrangements;**

(d) **Invite increased involvement by civil society and the private sector in the development and implementation of programmes and activities related to sustainable development in mountains;**

(e) **Support the efforts of the Mountain Partnership and encourage the involvement of Government, civil society and private sector institutions at the national level;**

(f) **Support the continued development and implementation of communication programmes for sustainable mountain development at all levels, to build on the awareness and momentum for change promoted by the International Year of Mountains and the opportunity provided annually by International Mountain Day on 11 December;**

(g) **Support education and capacity-building programmes to foster sustainable mountain development at all levels;**

(h) Promote the strengthening of the role of mountain women in decision-making processes that affect their communities, cultures and environments;

(i) Encourage increased levels of investment and funding for sustainable development in mountain regions, including through innovative financial mechanisms and approaches such as debt relief and payment for environmental services;

(j) Ensure that indigenous cultures, traditions and knowledge are fully considered and respected in development policy and planning in mountain regions and that, in particular, indigenous communities are directly involved in decisions affecting their lives;

(k) Promote initiatives for integrated transboundary cooperation as well as strategies for sustainable activities in mountain ranges, through mutually agreed arrangements by the countries concerned and through cooperation between mountain regions and their respective regional conventions;

(l) Support efforts undertaken at the global, regional and national levels to effectively integrate management considerations, including mountain biological diversity, into comprehensive policy approaches for the sustainable development of mountain areas.